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EXAMINER
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LAZARO, DAVID R

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/955,788	<b>Applicant(s)</b> FLETCHER ET AL.	
	<b>Examiner</b> David Lazaro	<b>Art Unit</b> 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 20-33, 35-38, 40-45, 47-56 and 58-62 is/are rejected.
- 7) ☒ Claim(s) 17-19, 34, 39, 46 and 57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/19/01, 10/18/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-62 are pending in this Office Action.

***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 09/19/01 and 10/18/04 have been considered by the Examiner.

***Specification***

3. Please provide any missing Patent/Serial numbers.

***Claim Objections***

4. Claim 5 is objected to because of the following informalities: In line 2, "the determining step" should more clearly indicated the appropriate "determining step" since there are two determining steps claimed. For example, "the determining step" could be replaced with "the step of determining if each located service has a predetermined system interfaces". Appropriate correction is required.
5. Claim 6 is objected to because of the following informalities: Claim 6 ends with 2 periods. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-9, 11, 12, 21-24, 27-31, 35, 36, 40-44, 48, 49, 51-55, 59, 60 and 62 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,560,633 by Roberts et al. (Roberts).

8. With respect to Claim 1, Roberts teaches a method of building distributed software services as aggregations of other services, comprising steps of: determining a taxonomy of interest for a new distributed software service (Col. 4 line 60 - Col. 7 line 8 and Col. 19 lines 10-50); programmatically scanning a network-accessible registry to locate registered services having the taxonomy of interest (Col. 4 lines 25-50, Col. 9 lines 1-8, Col. 19 lines 41-50 and Col. 21 line 60 - Col. 22 line 3); determining if each located service has a predetermined deployment interface (Col. 19 lines 23-40 and Col. 21 line 60 - Col. 22 line 3); and providing the located services to a service composition tool if the determining step has a positive result (Col. 19 lines 41-60).

9. With respect to Claim 2, Roberts teaches all the limitations of Claim 1 and further teaches the step of adding the predetermined deployment interface to the located

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service when the determining step has a negative result (Col. 21 lines 39 - Col. 22 line 55, particularly steps 3-5)

10. With respect to Claim 3, Roberts teaches all the limitations of Claim 2 and further teaches the adding step causes the determining step to have the positive result (Col. 21 lines 53-59).

11. With respect to Claim 4, Roberts teaches all the limitations of Claim 1 and further teaches the steps of: determining if each located service has a predetermined system interface for managing that located service (Col. 21 lines 60 - Col. 22 line 55, particularly steps 5 and 6).

12. With respect to Claim 5, Roberts teaches all the limitations of Claim 4 and further teaches the step of adding the predetermined system interface to the located service when the determining step has a negative result (Col. 21 lines 60 - Col. 22 line 55, particularly steps 5 and 6).

13. With respect to Claim 6, Roberts teaches all the limitations of Claim 1 and further teaches the providing step further comprises the step of placing a representation of the located services on a user interface on the composition tool (Col. 21 lines 25-59 and See Fig 7a),

14. With respect to Claim 7, Roberts teaches all the limitations of Claim 1 and further teaches the step of building the new service using selected ones of the provided services (Col. 4 line 60 - Col. 5 line 8 discloses the general concept, Col. 19 - Col. 22 gives an example of the overall process, with Col. 22 lines 51-55 allowing for a preview of the new service in the composition tool).

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15. With respect to Claim 8, Roberts teaches all the limitations of Claim 7 and further teaches the step of obtaining information regarding the provided services for use in the building step (Col. 9 lines 25-34 and Col. 14 lines 1-34).

16. With respect to Claim 9, Roberts teaches all the limitations of Claim 8 and further teaches the obtained information comprises operations available from the provided services (Col. 9 lines 25-34 and Col. 14 lines 1-34).

17. With respect to Claim 11, Roberts teaches all the limitations of Claim 8 and further teaches the obtained information comprises a descriptive name of each of the provided services (Col. 9 lines 25-34 and Col. 14 lines 1-34).

18. With respect to Claim 12, Roberts teaches all the limitations of Claim 8 and further teaches the obtained information comprises an iconic representation of each of the provided services (Col. 14 line 65 - Col. 15 line 11).

19. With respect to Claim 21, Roberts teaches all the limitations of Claim 7 and further teaches the step of defining a public interface to the new service (Col. 5 lines 19-41).

20. With respect to Claim 22, Roberts teaches all the limitations of Claim 7 and further teaches the step of defining a deployment interface to the new service (Col. 5 lines (Col. 5 line 47 - Col. 6 line 20).

21. With respect to Claim 23, Roberts teaches all the limitations of Claim 7 and further teaches the step of defining a system interface to the new service (Col. 5 lines (Col. 5 line 47 - Col. 6 line 20).

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22. With respect to Claim 24, Roberts teaches all the limitations of Claim 7 and further teaches the step of selecting one or more service providers to fulfill operations of the new service (It is inherent that service providers fulfill operations of the new service since the services used for operations of the new service come from a set of published (by service providers) web services - Col. 4 lines 34-45).

23. With respect to Claim 27, Roberts teaches all the limitations of Claim 24 and further teaches the step of defining a mapping between operations of the selected service providers and operations of the new service (Col. 6 lines 30-37 and Col. 21 lines 39-65).

24. With respect to Claim 28, Roberts teaches all the limitations of Claim 27 and further teaches the mapping comprises transformation logic (Col. 18 lines 42-67).

25. With respect to Claim 29, Roberts teaches all the limitations of Claim 27 and further teaches the mapping comprises stylesheet transformations (Col. 18 lines 42-67).

26. With respect to Claim 30, Roberts teaches all the limitations of Claim 28 and further teaches the transformation logic specifies service-to-service transformations for particular services (Col. 18 lines 42-67 and Col. 4 lines 25-33).

27. With respect to Claim 31, Roberts teaches all the limitations of Claim 24 and further teaches the step of creating a static binding to the selected service providers (Col. 6 lines 30-37 and Col. 21 lines 39-65).

28. With respect to Claim 35, Roberts teaches all the limitations of Claim 31 and further teaches the step of creating a markup language document representing the binding (Col. 7 lines 34-47).

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29. With respect to Claim 36, Roberts teaches all the limitations of Claim 35 and further teaches the step of registering the markup language document in the registry (Col. 12 lines 13-27).

30. With respect to Claim 40, Roberts teaches all the limitations of Claim 1 and further teaches wherein the new service is a web service (Col. 4 line 60 - Col. 5 line 8).

31. With respect to Claim 41, Roberts teaches a system for building distributed software services as aggregations of other services, comprising: means for determining a taxonomy of interest for a new distributed software service (Col. 4 line 60 - Col. 7 line 8 and Col. 19 lines 10-50); means for programmatically scanning a network-accessible registry to locate registered services having the taxonomy of interest (Col. 4 lines 25-50, Col. 9 lines 1-8, Col. 19 lines 41-50 and Col. 21 line 60 - Col. 22 line 3); means for determining if each located service has a predetermined deployment interface (Col. 19 lines 23-40 and Col. 21 line 60 - Col. 22 line 3); and means for providing the located services to a service composition tool if the determining step has a positive result (Col. 19 lines 41-60).

32. With respect to Claim 42, Roberts teaches all the limitations of Claim 41 and further teaches means for adding the predetermined deployment interface to the located service when the means for determining has a negative result (Col. 21 lines 39 - Col. 22 line 55, particularly steps 3-5)

33. With respect to Claim 43, Roberts teaches all the limitations of Claim 41 and further teaches means for determining if each located service has a predetermined



system interface for managing that located service (Col. 21 lines 60 - Col. 22 line 55, particularly steps 5 and 6).

34. With respect to Claim 44, Roberts teaches all the limitations of Claim 41 and further teaches means for building the new service using selected ones of the provided services (Col. 4 line 60 - Col. 5 line 8 discloses the general concept, Col. 19 - Col. 22 gives an example of the overall process, with Col. 22 lines 51-55 allowing for a preview of the new service in the composition tool).

35. With respect to Claim 48, Roberts teaches all the limitations of Claim 44 and further teaches means for defining at least one of (1) a deployment interface to the new service and (2) a system interface to the new service (Col. 5 line 47 - Col. 6 line 20).

36. With respect to Claim 49, Roberts teaches all the limitations of Claim 44 and further teaches means for selecting one or more service providers to fulfill operations of the new service. (It is inherent that service providers fulfill operations of the new service since the services used for operations of the new service come from a set of published (by service providers) web services - Col. 4 lines 34-45).

37. With respect to Claim 51, Robert teaches all the limitations of Claim 49 and further teaches means for defining a mapping between operations of the selected service providers and operations of the new service (Col. 6 lines 30-37 and Col. 21 lines 39-65), wherein the mapping comprises at least one (1) transformation logic (Col. 18 lines 42-67), (2) stylesheet transformations (Col. 18 lines 42-67), and (3) service-to-service transformations for particular services (Col. 18 lines 42-67 and Col. 4 lines 25-33).

38. With respect to Claim 52, Roberts teaches a computer program product for building distributed software services as aggregations of other services, the computer program product embodied on one or more computer-readable media and comprising: computer-readable program code means for determining a taxonomy of interest for a new distributed software service (Col. 4 line 60 - Col. 7 line 8 and Col. 19 lines 10-50); computer-readable program code means for programmatically scanning a network-accessible registry to locate registered services having the taxonomy of interest (Col. 4 lines 25-50, Col. 9 lines 1-8, Col. 19 lines 41-50 and Col. 21 line 60 - Col. 22 line 3); computer-readable program code means for determining if each located service has a predetermined deployment interface (Col. 19 lines 23-40 and Col. 21 line 60 - Col. 22 line 3); and computer-readable program code means for providing the located services to a service composition tool if the determining step has a positive result (Col. 19 lines 41-60).

39. With respect to Claim 53, Roberts teaches all the limitations of Claim 52 and further teaches computer-readable program code means for adding the predetermined deployment interface to the located service when the computer-readable program code means for determining has a negative result (Col. 21 lines 39 - Col. 22 line 55, particularly steps 3-5)

40. With respect to Claim 54, Roberts teaches all the limitations of Claim 52 and further teaches computer-readable program code means for determining if each located service has a predetermined system interface for managing that located service (Col. 21 lines 60 - Col. 22 line 55, particularly steps 5 and 6).

41. With respect to Claim 55, Roberts teaches all the limitations of Claim 52 and further teaches computer-readable program code means for building the new service using selected ones of the provided services (Col. 4 line 60 - Col. 5 line 8 discloses the general concept, Col. 19 - Col. 22 gives an example of the overall process, with Col. 22 lines 51-55 allowing for a preview of the new service in the composition tool).

42. With respect to Claim 59, Roberts teaches all the limitations of Claim 55 and further teaches computer-readable program code means for defining at least one of (1) a deployment interface to the new service and (2) a system interface to the new service (Col. 5 line 47 - Col. 6 line 20).

43. With respect to Claim 60, Roberts teaches all the limitations of Claim 55 and further teaches computer-readable program code means for selecting one or more service providers to fulfill operations of the new service (It is inherent that service providers fulfill operations of the new service since the services used for operations of the new service come from a set of published (by service providers) web services - Col. 4 lines 34-45).

44. With respect to Claim 62, Robert teaches all the limitations of Claim 60 and further teaches computer program code means for defining a mapping between operations of the selected service providers and operations of the new service (Col. 6 lines 30-37 and Col. 21 lines 39-65), wherein the mapping comprises at least one (1) transformation logic (Col. 18 lines 42-67), (2) stylesheet transformations (Col. 18 lines 42-67), and (3) service-to-service transformations for particular services (Col. 18 lines 42-67 and Col. 4 lines 25-33).

***Claim Rejections - 35 USC § 103***

45. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

46. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent 6,782,605 by Roberts et al. (Booth).

47. With respect to Claim 10, Roberts teaches all the limitations of Claim 8, but does not explicitly disclose the obtained information comprises an author of each of the provided services. Booth teaches information about a service can include the author of the service (Col. 18 lines 36-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Roberts and modify it as indicated by Booth such that the obtained information comprises an author of each of the provided services. One would be motivated to have this, as it aids in management of directory stored services as they are enhanced over time (Col. 16 lines 45-56 of Booth).

48. Furthermore, the examiner notes both Patents are owned by the same assignee.

49. Claims 20, 47 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent Application Publication 2001/0034771 by Hutsch et al. (Hutsch).

50. With respect to Claim 20, Roberts teaches all the limitations of Claim 7 but does not explicitly disclose the new service is modeled as a portlet. Hutsch teaches a service can be modeled as a portlet (Page 38 [0093]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Roberts and modify it as indicated by Hutsch such that the new service is modeled as a portlet. One would be motivated to have this as it allows for individual customization of services and access to wider variety of content (Page 1 [0016] and Page 38 [0093]-[0094] of Hutsch).

51. With respect to Claim 47, Roberts teaches all the limitations of Claim 44 and further teaches means for defining a public interface to the new service (Col. 5 lines 19-41). Roberts does not explicitly disclose the new service is modeled as a portlet. Hutsch teaches a service can be modeled as a portlet (Page 38 [0093]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Roberts and modify it as indicated by Hutsch such that the new service is modeled as a portlet. One would be motivated to have this as it allows for individual customization of services and access to wider variety of content (Page 1 [0016] and Page 38 [0093]-[0094] of Hutsch).

52. With respect to Claim 58, Roberts teaches all the limitations of Claim 55 and further teaches computer-readable program code means for defining a public interface to the new service (Col. 5 lines 19-41). Roberts does not explicitly disclose the new service is modeled as a portlet. Hutsch teaches a service can be modeled as a portlet (Page 38 [0093]). It would have been obvious to one of ordinary skill in the art at the

time the invention was made to take the computer program product disclosed by Roberts and modify it as indicated by Hutsch such that the new service is modeled as a portlet. One would be motivated to have this as it allows for individual customization of services and access to wider variety of content (Page 1 [0016] and Page 38 [0093]-[0094] of Hutsch).

53. Claim 13-16, 45 and 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent Application Publication 2002/0184070 by Chen et al. (Chen).

54. With respect to Claim 13, Roberts teaches all the limitations of Claim 7 but does not explicitly disclose the step of creating a directed graph representation of the new service. Chen teaches a service can be represented as a directed graph (Page 5 [0074]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Roberts and modify it as indicated by Chen such that the method further comprises the step of creating a directed graph representation of the new service. One would be motivated to have this as it aids in the management and support of collaborative business processes (Page 2 [0014]-[0016] and Page 5 [0074] of Chen).

55. With respect to Claim 14, Roberts in view of Chen teaches all the limitations of Claim 13 and further teaches wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service (Page 5 [0074]-[0075] of Chen).

56. With respect to Claim 15, Roberts in view of Chen teaches all the limitations of Claim 14 and further teaches wherein data mapping operations are associated with selected ones of the edges (Page 5 [0074]-[0075] of Chen).

57. With respect to Claim 16, Roberts in view of Chen teaches all the limitations of Claim 13 and further teaches the step of creating a markup language document representing the directed graph representation (Page 5 [0083] and first table on Page 6 of Chen).

58. With respect to Claim 45, Roberts teaches all the limitations of Claim 44 but does not explicitly disclose means for creating a directed graph representation of the new service, wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service, and wherein data mapping operations are associated with selected ones of the edges. Chen teaches means for creating a directed graph representation of the new service (Page 5 [0074]), wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service (Page 5 [0074]-[0075] of Chen), and wherein data mapping operations are associated with selected ones of the edges (Page 5 [0074]-[0075] of Chen). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Roberts and modify it as indicated by Chen such that the system further comprises means for creating a directed graph representation of the new service, wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new

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service, and wherein data mapping operations are associated with selected ones of the edges. One would be motivated to have this as it aids in the management and support of collaborative business processes (Page 2 [0014]-[0016] and Page 5 [0074] of Chen).

59. With respect to Claim 56, Roberts teaches all the limitations of Claim 55 but does not explicitly disclose computer-readable program code means for creating a directed graph representation of the new service, wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service, and wherein data mapping operations are associated with selected ones of the edges. Chen teaches means for creating a directed graph representation of the new service (Page 5 [0074]), wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service (Page 5 [0074]-[0075] of Chen), and wherein data mapping operations are associated with selected ones of the edges (Page 5 [0074]-[0075] of Chen). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the computer program product disclosed by Roberts and modify it as indicated by Chen such that the computer program product further comprises computer-readable program code means for creating a directed graph representation of the new service, wherein the nodes of the directed graph represent operations of the new service and edges of the directed graph represent transition conditions of the new service, and wherein data mapping operations are associated with selected ones of the edges. One would be motivated to have this



as it aids in the management and support of collaborative business processes (Page 2 [0014]-[0016] and Page 5 [0074] of Chen).

60. Claims 25, 26, 32, 33, 37, 38, 50 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts in view of U.S. Patent Application Publication 2002/0111848 by White (White).

61. With respect to Claim 25, Roberts teaches all the limitations of Claim 24 but does not explicitly disclose determining a selected taxonomy wherein service providers may be located for binding to the new service; determining a particular network-accessible registry wherein the service providers may be registered; and programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy. White teaches determining a selected taxonomy wherein service providers may be located for binding to a service (Page 5 [0045]); determining a particular network-accessible registry wherein the service providers may be registered (Page 5 [0045]); and programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy (Page 5 [0045]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Roberts and modify it as indicated by White such that the method further comprises determining a selected taxonomy wherein service providers may be located for binding to the new service; determining a particular network-accessible registry wherein the service providers may be registered; and programmatically scanning the particular registry to locate service providers having

registered services in the selected taxonomy. One would be motivated to have this, as there is need for dynamic provision of services available from multiple service providers (Page 1 [0004]-[0006] and Page 5 [0045] of White).

62. With respect to Claim 26, Roberts in view of White teaches all the limitations of Claim 25 and further teaches wherein the programmatically scanning step further comprises determining if the registered services of the located service providers have a predetermined interface (Page 5 [0045] of White).

63. With respect to Claim 32, Roberts teaches all the limitations of Claim 24 but does not explicitly disclose the step of creating a dynamic binding to the selected service providers. White teaches the step of creating a dynamic binding to selected service providers (Page 4 [0039] and Page 5 [0045]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the method disclosed by Roberts and modify it as indicated by White such that the method further comprises the step of creating a dynamic binding to the selected service providers. One would be motivated to have this, as there is need for dynamic provision of services available from multiple service providers (Page 1 [0004]-[0006] and Page 5 [0045] of White).

64. With respect to Claim 33, Roberts in view of White teaches all the limitations of Claim 32 and further teaches the dynamic binding includes syntax to programmatically select particular service providers at run-time (Page 5 [0045] of White).

65. With respect to Claim 37, Roberts in view of White teaches all the limitations of Claim 32 and further teaches the step of creating a markup language document representing the binding (Col. 7 lines 34-47).

66. With respect to Claim 38, Roberts in view of White teaches all the limitations of Claim 37 and further teaches the step of registering the markup language document in the registry (Col. 12 lines 13-27).

67. With respect to Claim 50, Roberts teaches all the limitations of Claim 49 but does not explicitly disclose means for determining a selected taxonomy wherein service providers may be located for binding to the new service; means for determining a particular network-accessible registry wherein the service providers may be registered; and means for programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy. White teaches means for determining a selected taxonomy wherein service providers may be located for binding to a service (Page 5 [0045]); means for determining a particular network-accessible registry wherein the service providers may be registered (Page 5 [0045]); and means for programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy (Page 5 [0045]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the system disclosed by Roberts and modify it as indicated by White such that the system further comprises means for determining a selected taxonomy wherein service providers may be located for binding to the new service; means for determining a particular network-accessible registry wherein the service providers may be registered; and means for programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy. One would be

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motivated to have this, as there is need for dynamic provision of services available from multiple service providers (Page 1 [0004]-[0006] and Page 5 [0045] of White).

68. With respect to Claim 60, Roberts teaches all the limitations of Claim 49 but does not explicitly disclose computer program code means for determining a selected taxonomy wherein service providers may be located for binding to the new service; computer program code means for determining a particular network-accessible registry wherein the service providers may be registered; and computer program code means for programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy. White teaches computer program code means for determining a selected taxonomy wherein service providers may be located for binding to a service (Page 5 [0045]); computer program code means for determining a particular network-accessible registry wherein the service providers may be registered (Page 5 [0045]); and computer program code means for programmatically scanning the particular registry to locate service providers having registered services in the selected taxonomy (Page 5 [0045]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to take the computer program product disclosed by Roberts and modify it as indicated by White such that the computer program product further comprises computer program code means for determining a selected taxonomy wherein service providers may be located for binding to the new service; computer program code means for determining a particular network-accessible registry wherein the service providers may be registered; and computer program code means for programmatically scanning the particular registry to locate service providers having

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registered services in the selected taxonomy. One would be motivated to have this, as there is need for dynamic provision of services available from multiple service providers (Page 1 [0004]-[0006] and Page 5 [0045] of White).

### ***Allowable Subject Matter***

69. Claims 17-19, 34, 39, 46 and 57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

70. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

71. U.S. Patent 5,884,317 by Cline et al. "Service interface repository" March 16, 1999. Discloses network application development method making use of a database of interface definitions.

72. U.S. Patent 6,681,221 by Jacobs "Method and system for achieving directed acyclic graph (DAG) representations of data in XML" January 20, 2004. Discloses the directed graphs represented in XML.

73. U.S. Patent Application Publication 2002/0142760 by Gidron et al. "System and method for aggregation of user applications for limited-resource devices" October 3, 2002. Discloses the partially automated aggregation of services for use by limited-

resource devices. Services are published to a repository which is organized into categories.

74. WO 99/50756 by Aannestad et al. "Methods and apparatus for network applications using object tools" October 7, 1999. Discloses development of object-oriented network groupware applications in substantially non object-oriented programming environments. Makes use of reusable code and an application analyzer to identify deviations from standards compliance.

75. Caswell et al. "Using service models for management of internet services", Hewlett Packard publication available at [www.hpl.hp.com/techreports/](http://www.hpl.hp.com/techreports/), published March 1999. Discloses the use of service models as part of service management. Discusses some use of directed graphs, see section 3.2).

76. Gaedke et al. "Supporting compositional reuse in component-based web engineering", Symposium on Applied Computing 2000, March 2000, pp.927-933. Discloses general state of the art in developing web applications from reusable components described in a markup language.

77. Irani, Romin. "An Introduction to ebXML: Collaborative Electronic Business is here to stay". July 11, 2001. Online article from Web Services Architect ([webservicesarchitect.com](http://webservicesarchitect.com)). Discloses general overview of ebXML and its implementation with respect to Business Processes and scenarios.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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January 20, 2005



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